

170293

**SYSTEM AND METHOD FOR SIMULTANEOUS
CONSTRUCTION OF PHYSICAL AND CAD MODELS**

ABSTRACT OF THE DISCLOSURE

5 A system and method for simultaneous construction of a
corresponding CAD model and physical model, wherein the CAD
model comprises a plurality of CAD representations each ,
corresponding to a physical component part that is used to
construct the physical model. During construction of a
physical model using individual component parts, the CAD
10 system can identify a given component part and retrieve its
CAD representation from a CAD library. In addition, the CAD
system allows the user to build a CAD representation of a
given component part if its CAD representation is not stored
in the CAD library. After the CAD representation of the
15 component part is generated, the CAD system will track the
motion (position and orientation) of the part as it is
maneuvered into a desired position in the physical model.
The position and orientation, as well as the CAD
representation of the component part as it exists in the
20 physical model is saved in a CAD model database. During
assembly, the CAD system can render an image of the CAD
model as each component part is placed in the physical
model.